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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,296	12/28/2000	George Eric Coxon	LD 11444 GEC 2 0498	8620

7590 05/22/2003

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EXAMINER

SANTIAGO, MARICELI

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 05/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/751,296

Applicant(s)

COXON ET AL.

Examiner

Mariceli Santiago

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Rhodes et al. (US 4,174,973).

Regarding claim 1, Rhodes discloses a process for making an arc tube, comprising the steps of sintering an arc tube composition to form an arc tube and annealing the arc tube in a vacuum (Column 4, lines 8-15).

Regarding claim 4, Rhodes discloses a process wherein the sintering an arc tube composition to form an arc tube includes forming a ceramic arc tube.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rutan et al. (US 5,942,850) in view of Holcombe et al. (US 3,917,782).

Regarding claims 1-4, 12, 19 and 20, Rutan discloses an arc tube made of ceramic material such as alumina oxide. Rutan fails to disclose the method of manufacturing the arc tube, comprising the steps of sintering an arc tube composition to form an arc tube, and

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annealing the arc tube in a vacuum. However, Holcome discloses a method of manufacturing hollow thin-walled articles, the method comprising the steps of sintering ceramic, e.g. alumina oxide, composition to form a hollow article and annealing the arc tube in a vacuum in order to provide an article with minimum cracking and deformation problems encountered in prior manufacturing techniques (Column 1, lines 49-65) and also to increase the transparency of the ceramic article by reducing the amount of porous in the sintered ceramic composition. Furthermore, the annealing step occurs at a temperature from about 1000°C to 1500°C, inclusive 1200°C. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to use the manufacturing method disclosed by Holcome for the ceramic arc tube of Rutan in order to prevent cracking and deformation problems of the arc tube and further increase the transparency of the ceramic material.

Regarding claims 5-7 and 14-16, Rutan discloses an arc tube comprising a filling of mercury having a weight between about 5.5 and 6.5 milligrams (Column 4, lines 46-47).

Regarding claims 8-9 and 17-18, Rutan discloses an arc tube comprising a filling of halide having a weight between about 10 and 15 milligrams (Column 4, lines 27-32).

Regarding claims 10 and 13, Rutan discloses a method wherein the annealing step includes maintaining a pressure of 10^{-5} , while Rutan does not exemplify a pressure of 10^{-6} the claimed pressure is not considered critical to distinction over the prior art, and one of ordinary skill in the art would clearly achieve a desired pressure value by undue experimentation. Furthermore, discovering an optimum value of a result effective variable involves only routine skill in the art. Accordingly, it would have been obvious to one of ordinary skills in the art at the time the invention was made to provide a pressure of 10^{-6} , since discovering an optimum value of a result variable is considered within the skills of the art.

Regarding claim 11, Rutan discloses the claimed invention except for the limitation of the arc tube having a gap length between about 7.5 and 8 mm. It has been held that where the

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general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the having a gap length between about 7.5 and 8 mm, since optimization of workable ranges is considered within the skill of the art.

Other Prior Art Cited

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mariceli Santiago whose telephone number is (703) 305-1083. The examiner can normally be reached on Monday-Friday from 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (703) 305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7382. Additionally, the following fax phone numbers can be used during the prosecution of this application (703) 872-9318 (for response before a Final Action) and (703) 872-9319 (for response after a Final Action).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Ms230 5/16/03
Mariceli Santiago
Patent Examiner
Art Unit 2879

[Signature]
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